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TITLE: Wound dressing

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INVENTOR-INFORMATION:

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US-CL-CURRENT: 424/445, 424/443 , 602/52

ABSTRACT:

A wound dressing is provided comprising a layer of chitin affixed to a layer of porous, expanded polytetrafluoroethylene (PTFE). The chitin may be laminated to the PTFE or it may penetrate into and be impregnated in the porous PTFE layer. The composite preferably has a pressure sensitive adhesive applied in a dot pattern on its surface to enable application and securing of the dressing over a wound.

8 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

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Abstract Text - ABTX (1):

A wound dressing is provided comprising a layer of chitin affixed to a layer of porous, expanded polytetrafluoroethylene (PTFE). The

chitin may be laminated to the PTFE or it may penetrate into and be impregnated in the porous PTFE layer. The composite preferably has a pressure sensitive adhesive applied in a dot pattern on its surface to enable application and securing of the dressing over a wound.

TITLE - TI (1):
Wound dressing

Brief Summary Text - BSTX (2):

The present invention concerns a wound-covering material or wound dressing.

The object of the present invention is: (a) to insure antibacterial barrier properties and waterproof properties in a covering material which is applied to cuts, burns and other wounds in order to protect such wounds; (b) to insure acceptable compatibility with the wound; (c) to maintain air and water vapor permeability; and (d) to prevent invasion by body tissues so that stripping of the covering material from the wound is facilitated.

Brief Summary Text - BSTX (7):

A wound dressing is provided comprising a layer of chitin affixed to a layer of porous, expanded polytetrafluoroethylene (PTFE). The chitin may be laminated to the PTFE or it may penetrate into and be impregnated in the porous PTFE layer. The dressing preferably has a pressure sensitive adhesive applied in a dot pattern on its surface, thereby providing means to apply and secure the dressing over a wound. The porous, expanded PTFE has a microstructure of nodes interconnected by fibrils wherein fibril lengths preferably range from about 0.01 to about 1.0 micrometers. A layer of a water-absorbing macromolecular material may be interposed between the chitin layer and the

PTFE layer. The water-absorbing macromolecular material preferably is polyvinylalcohol or an acrylic acid graft-polymerized starch which will absorb blood and other liquids.

Drawing Description Text - DRTX (2):

FIG. 1 is a perspective view, partly in cross-section, of one embodiment of the wound dressing according to the invention.

Detailed Description Text - DETX (2):

A wound dressing is provided comprising a layer of chitin affixed to a layer of porous, expanded polytetrafluoroethylene (PTFE). The chitin may be laminated to the PTFE or it may penetrate and be impregnated in the porous PTFE layer. The composite preferably has a pressure sensitive adhesive applied in a dot pattern on its surface to enable application and securing of the dressing over a wound.

Detailed Description Text - DETX (3):

Specifically, the present invention provides a wound covering or a wound dressing material which is characterized by the fact that a chitin layer is applied to a porous, expanded polytetrafluoroethylene film.

Detailed Description Text - DETX (8):

Another method is to acetylate chitosan after coating into chitin. Chitosan produced by deacetylation of chitin is readily soluble in acid. It is acetylated after forming it into a membrane.

Detailed Description Text - DETX (9):

An example is as follows: (a) chitosan is dissolved into a water solution containing acetic acid of 10 weight percent so as to obtain

a solution containing chitosan of 5 weight percent; (b) the solution obtained containing chitosan is diluted with methyl alcohol to three times its volume; (c) the diluted solution obtained is coated onto the PTFE layer and left to dry; (d) after drying; the composite is swollen by immersing it into methyl alcohol containing water of 20 weight percent for about ten minutes. Then acetic anhydride (2 to 100 mole per one mole of glucosamine) is added and it is left as it is for 30 minutes; (e) the composite is immersed into a water solution containing 2 percent NaOH for 30 minutes; and (f) the composite is then washed with water and left to dry.

Claims Text - CLTX (1):

1. A wound dressing comprising a layer of chitin affixed to a layer of porous, expanded polytetrafluoroethylene.

Claims Text - CLTX (2):

2. The dressing of claim 1 wherein the chitin is laminated to the polytetrafluoroethylene.

Claims Text - CLTX (3):

3. The dressing of claim 1 wherein the chitin penetrates into and is impregnated in the porous polytetrafluoroethylene layer.

Claims Text - CLTX (4):

4. The dressing of claim 1 having a pressure sensitive adhesive applied in a dot pattern on its surface, thereby providing means to apply and secure said dressing over a wound.

Claims Text - CLTX (5):

5. The dressing of claim 1 wherein said porous,

expanded
polytetrafluoroethylene has a microstructure of nodes
interconnected by fibrils
wherein fibril lengths range from about 0.01 to about 1.0
micrometers.

Claims Text - CLTX (6):

6. The dressing of claim 1 wherein a layer of a
water-absorbing
macromolecular material is interposed between said chitin
layer and said
polytetrafluoroethylene layer.

Claims Text - CLTX (7):

7. The dressing of claim 6 wherein said water-absorbing
macromolecular
material is polyvinylalcohol.

Claims Text - CLTX (8):

8. the dressing of claim 6 wherein said water-absorbing
macromolecular
material is an acrylic acid graft-polymerized starch.